NON-PUBLIC?: N
ACCESSION #: 8812210001
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Braidwood Unit 2 PAGE: 1 of 3

DOCKET NUMBER: 05000457

TITLE: Reactor Trip on a Low-Low Steam Generator Water Level Due to Leakage Past Feedwater Regulating Valves
EVENT DATE: 11/17/88 LER #: 88-028-00 REPORT DATE: 12/08/88

OPERATING MODE: 1 POWER LEVEL: 006

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: David W. Ibrahim, Technical Staff Engineer TELEPHONE: 815-458-2801 Ext 2402

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE TO NPRDS:

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

Prior to the event, feedwater (FW) flow to the steam generators (S/G's) was from the FW tempering lines. While changing the flowpath to the FW preheater bypass lints, the Nuclear Station Operator (NSO) opened the FW Bypass Manual Isolation valves and the FW Shutoff valves (2FWO06A, 6, C, & D). This resulted in greater that required FW flow which forced the NSO to open and close the Preheater Bypass Isolation Valves to maintain S/6 water level. At 2006 on November 17, 1988 the reactor tripped due to a Low-Low level in the 25 S/6 (as a result of feeding in relatively cold water). The root cause of the event was a procedural deficiency in BwGP 100-2, Plant Startup, that required the ZFWO06A-D valves to be opened prior to 3% power. S/G levels were restored to their normal operating band. The pneumtic converters and positioners of the FW Regulating Bypass Valves were also recalibrated. Temporary Changes to applicable procedures were issued to keep the 2FWO06A-D valves closed until turbine operation. There have been previous occurrences of an Engineered Safety Features Actuation as a result of S/G level perturbations. Previous corrective actions are not applicable to this event.

END OF ABSTRACT

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: Braidwood 2; Event Date: November 17, 1988; Event Time: 2006;

Mode: I - Power Generation; Rx Power: 6%;

RCS AB! Temperature/Pressure: NOT/NOP;

B. DESCRIPTION OF EVENT:

There were no structures, systems or components inoperable at the beginning of the event that contributed to the event.

Prior to the event, feedwater (FW) SJ! was being routed to the steam generators (RC) AB! through the feedwater tempering lines. In preparing to change the feedwater flowpath from the tempering lines to the preheater bypass lines the Nuclear Station Operator (NSO) opened the Feedwater (FW) Bypass Manual Isolation valves (2FWO55A,B,C & D) and the FW Shutoff valves (2FWO06A,B,C & D) according
to general procedure 2BwGP 100-2, Plant Startup, steps F.19.c and F.19.d. The NSO continued the power ascension. The normal leakage through the FW Regulating Valves (2FW510, 2FW520, 2FW530, & 2FW540) and the FW Regulating Bypass Valves (2FW510A, 2FW520A, 2FW530A, & 2FW540A) was greater than the required flow for steam generator level control. This forced the NSO to open and close the Preheater Bypass Isolation Valves (2FWO39A,B,C & D) while attempting to maintain S/G water level within the operating band. Level deviations in the 2A and 2B S/G's took place due to shrink and swell phenomena caused by intermittent feeding of relatively cold water to the S/G's. At 2006 on November 17, 1988 the reactor tripped due to a Low-Low level in the 2B S/G. Immediately following the reactor trip normal S/G water levels were established using the Auxiliary Feedwater (AF) BA! system.

The appropriate NRC notification via the ENS phone system was made at 2239 pursuant to 10CFR50.72(b)(2)(ii).

This event is being reported pursuant to 1OCFR50.73(a)(2)(iv) - any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature, including the Reactor Protection System.

C. CAUSE OF EVENT:

The root cause of the event was a procedural deficiency in BwGP 100-2, Plant Startup, that required the 2FWO06A-D valves to be opened prior to 3% power. Opening the 2FWO06A-D valves at this power provides greater flow through the Feedwater Regulating Valves than required for S/G level control. This forced the NSO to attempt to maintain level using the 2FWO39A-D valves.

D. SAFETY ANALYSIS:

This event had no effect on the safety of the plant or the public. All systems operated as designed; Auxiliary Feedwater (AF) BA! actuated and maintained S/G levels. Under the worst case conditions of operating at full power and a Low-Low water level in the S/G's, an Engineered Safety Feature Actuation would take place resulting in a reactor trip, turbine trip, and Auxiliary Feedwater actuation.

E. CORRECTIVE ACTIONS:

The S/G levels were restored to their normal operating band.

Temporary Change Number 3525 to general procedure 2BwGP 100-2 was issued to delete the requirement to verify open the 2FWO06A-D valves when reactor power was leveled at 1OE-08 amps during plant startup. This prevents leakage through the FW Regulating Valves at low power levels. Temporary Change Number 3362 to general procedure 2BwGP 100-3, Power Ascension 5% to 100%, was issued to open 2FWO06A-D prior to placing the turbine generator on line (approximately 16% reactor power).

Additionally, Instrument Maintenance Department recalibrated the current to pneumatic converters and the positioners of the FW Regulating Bypass Valves,

F. PREVIOUS OCCURRENCES:

There have been previous occurrences of an Engineered Safety Features Actuation as a result of S/G level perturbations. Previous corrective actions have addressed the root and contributing causes. Previous corrective actions are not applicable to this event.

G. COMPONENT FAILURE DATA:

This event was not the result of component failure, nor did any components fail as a result of this event.

Commonwealth Edison
Braidwood Nuclear Power Station
Route 1, Box 84
Braceville, Illinois 60407
Telephone 815/458-2801

December 12, 1988
BW/88-1548

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Dear Sir:

The enclosed Licensee Event Report from Braidwood Generating Station is being transmitted to you in accordance with the requirements of 10CFR50.73(a)(2)(iv) and which requires a 30 day written report. This report is number 88-028-00; Docket No. 50-457.

Very truly yours,

R. E. Querio
Station Manager
Braidwood Nuclear Station
REQ/AJS/jab
(7126z)

Enclosure: Licensee Event Report No. 88-028-00

cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
CECo Distribution List

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